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Conference Abstract

We Can('t) Get There From Here: Aligning local to global efforts for realizing a biodiversity data commons

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Abstract

The last 250 years of biodiversity research have produced a wealth of information on the natural world. First locked up in museum drawers or printed publications, in isolated desktop computers or in incompatible digital formats, and in multiple human languages, an increasing proportion is now digitally accessible, thanks to a number of organisational, institutional, and regional digitisation initiatives. These are creating new repositories of open data supporting a wealth of research, much of which has become possible thanks to the digital aggregation of disparate sources of information. Despite this growth of digital content, there is a growing realisation that these initiatives alone are insufficient and inadequate to address global community needs and expectations (Hardisty et al. 2013, Hobern et al. 2019). To move the community forward, we propose a coordinated **Commons for Biodiversity.**

Based on a landscape analysis of relevant infrastructures and more than twenty years of combined experience from two major initiatives (Integrated Digitized Biocollections [iDigBio] in the US and Synthesis of Systematic Resources [SYNTHESYS] in Europe), which suggest that while more data is being mobilized, our activities are creating larger

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data silos without cross-linkages between different categories of data necessary to fully exploit research opportunities. This highlights the need for more consolidation and alignment, with greater cross-linkage between data types supported by greater standardisation and agreed identifier strategies. Better coordination (e.g., of communication and education, to partition effort) of our communities' activities at various levels (publisher, collection, individual, and in software) would also promote more efficient use of organisational resources. We argue that this is only possible through greater international coordination, and will enable us to deliver on the major scientific opportunities from these data, such as the provision of a complete and accurate data on the world's species or predicting changing patterns and trends in biodiversity.

Adopting a shared vision at this level requires coordination mechanisms that we do not currently have and that transcend our normal regional activities. This "Biodiversity Commons" inspired by similar movements, is closely aligned with recent proposals to form a new alliance for biodiversity knowledge, the One-World Collection project, and the European Distributed System of Scientific Collections (DiSSCo). Coalescing these and related efforts, while engaging a broader set of stakeholders, is likely to be the next step toward realising a Common's movement for the biodiversity community.

In this presentation, we outline specific challenges and highlight possible solutions to help align our global efforts. These include bottom-up activities such as 1) sharing data visualisation and metrics of use to build a coordinated business case for collections data mobilisation; 2) the sharing of authority file resources to improve data quality and speed of data mobilisation; 3) the need for open fora supporting comment on vision, decisions and actions; as well as more top-down efforts such as 4) increasing international diversity and participation across the global museum community; 5) creating models of participation that include groups, individuals, and institutions varying in size, scope, and resources; 6) capacity enhancement activities such as the development of techniques for more cross-institutional infrastructure development; and 7) policy-level alignment to harmonise our operational activities (e.g. data citation and attribution), which are inclusive of more and varied stakeholders.

Keywords

biodiversity informatics, data, policy, collaboration, infrastructure, sustainability, open data, open science

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